

AVERIN, V.V. (Moskva); GARNYK, R.A. (Moskva); SAMARIN, A.M. (Moskva)

Thermodynamic conditions for the interaction between nitrogen  
on one hand and silicon and aluminum on the other, in transformer  
steel. Izv. AN SSSR. Otd. tekhn. nauk. Met. i gor. delo no.2:  
40-46 Mr-kp '63. (MIRA 16:10)

AVERIN, V.V.; SAMARIN, A.M.

Effect of silicon on the solubility of oxygen in liquid cobalt  
and in Co-Fe melts. Trudy Inst. met. no.14:50-57 '63.  
(MIRA 17:8)

1. Chlen.korrespondent AN SSSR; otvetstvennyy redaktor zhurnala "Trudy Instituta metallurgii" (for Samarin).

AVERIN, V.V.; CHIRKASOV, N.A.; SEMENOV, A.V.

Reoxidation of cobalt metls. Trudy Inst. met. no.14:58-67 163  
(NIRA 1718)

1. Chlen-korrespondent AN SSSR; otvetstvennyy redaktor zhurnala  
"Trudy Instituta metallofiziki" (for Semenov).

AVERIN, V. V.; SAMARIN, A. M.

Physical chemistry of the alloy deoxidation process. Archiw  
hutn 8 no. 4: 283-299 '63.

1. Baikov Institute, Moskva.

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7

AVERIN, V.V. (Moskva); SUDARIKOV, V.G. (Moskva)

Thermodynamics of nitrogen solutions in liquid iron. Izv.  
AN SSSR Met. i gor. delo no.243-12. Kr-Ap'64 (MIRA 17:8)

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7"

I. 63762-65 EPA(s)-2/EW(t)/EP(n)-2/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/EM/HB/JG

ACCESSION NR: AP5018012

UR/0020/65/163/001/0166/0163

AUTHOR: Tarakanov, Yu. V.; Cherkasov, P. A.; Averin, V. V.; Samarin, A. M.  
(Corresponding member AN SSSR)

TITLE: Effect of chromium on the deoxidizing capacity of silicon in nickel  
and chromium melts

SOURCE: AN SSSR, Doklady, v. 163, no. 1, 1965, 166-168

TOPIC TAGS: deoxidizing capacity, nickel containing melt, chromium containing  
melt, silicon, oxide phase, oxidation potential, activity coefficient, melt  
deoxidation

ABSTRACT: The effect of chromium on the deoxidizing capacity of silicon in  
melts of nickel and chromium was determined with the aid of a previously  
described technique (V. V. Averin, P. A. Cherkasov, A. M. Samarin. Tr. Inst.  
metallurgii, 11, Izd. AN SSSR, 1962, p 36) for investigating the equilibrium  
between the melts, the oxide phase, and a steam-hydrogen mixture with known  
oxidation potential. The deoxidizing capacity of silicon was determined at  
1600°C in Ni melts containing 5, 10, 15, and 20% Cr; the concentration of Si

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L 63762-65

ACCESSION NR: AP5018091

ranged from 0.1 to 2.0%. Electrolytic nickel and chromium, pure silicon, and zirconium-dioxide crucibles were used in this investigation. Fig. 1 shows the solubility of oxygen as a function of Si content in a Fe alloy containing 20% Cr and in pure nickel; it can be seen that the solubility of oxygen decreases with increasing content of silicon in the melts. The effect of silicon on the activity of oxygen, determined on the basis of these findings, was found to decrease with increasing content of Cr in the melt (Fig. 2); this effect reaches its maximum for a Ni melt containing 5% Cr, whereas in a Ni melt containing 20% Cr silicon virtually does not affect the activity of oxygen. By contrast, the activity coefficient of silicon increases with increasing concentration of Cr, since the presence of Cr weakens the strength of the bonding between Si and Ni. The method of calculating the activity coefficient of Si, also described below, is based on the assumption that the main purpose of adding silicon to the melt is to condition the deoxidation reaction (the product of the deoxidation reaction), which entirely consists of silica. However, the concentration of Si required for this purpose varies as a function of the concentration of Cr. For example, in a Ni-Si melt containing more than 0.1% Cr the deoxidation product is pure silica, whereas the addition of 5% Cr to the molten Ni causes the appearance of silica in the presence of as little as 0.25%

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L 63762-65

ACCESSION NR: AP5018092

0.307 S1. Orig. art. has: 1 table, 2 figures.

ASSOCIATION: none

SUMMITED: 22Dec64

ENCL: 02

SUB CODE: MM, G-C

NO REF Sov: 002

OTHER: 000

Card 3/5

L 63762-65

ACCESSION NR: AP501B092

ENCLOSURE: 01

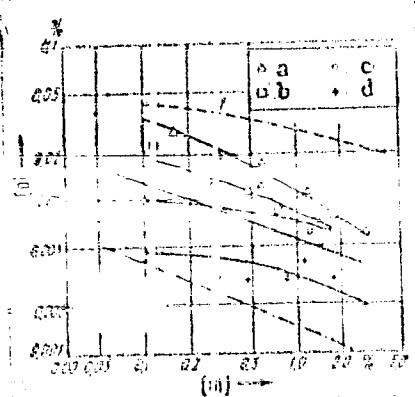


Fig. 1. Solubility of oxygen in melts of nickel and chromium as a function of the content of silicon.

- a - 20% Cr
- b - 15% Cr
- c - 10% Cr
- d - 5% Cr
- e - Fe-Cr (20% Cr)
- f - Ni-Si
- g - Fe-Si

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L-03702-S6

ACCESSION NR: AP5018091

ENCLOSURE: 02

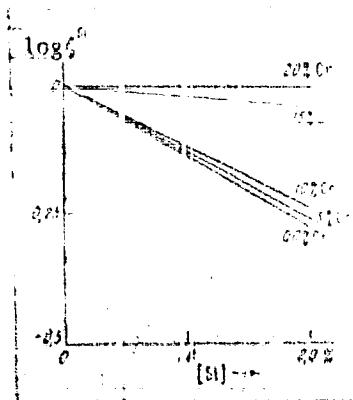


Fig. 2. Activity coefficient of silicon as a function of the concentration of silicon in nickel-chromium melts

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L 160-65 EMT(m)/EMT(t)/EMI IJK(c) JU/JU/UR/JG  
ACC NR: AP5027233 (A) SOURCE CODE: UR/0020/65/164/006/1355/1357

AUTHOR: Chorkasov, P. A.; Averin, V. V.; Samarin, A. M. (Corresponding member, AN SSSR)

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Dooxidizing capacity and activity of silicon in cobalt-chromium melts

SOURCE: AN SSSR. Doklady, v. 164, no. 6, 1965, 1355-1357

TOPIC TAGS: silicon, metal oxidation, cobalt, chromium, oxygen, SOLUBILITY, METAL MELTS

ABSTRACT: Experimental data, obtained during an investigation of the solubility of oxygen in Co-Cr melts containing Si proved the dependence of oxygen solubility on the content of Si: an increase in concentration of Si decreased the solubility of oxygen both in Co and Co-Cr melts. An increase in the content of Si in the Co-Cr melts caused a decrease in value of the oxidation potential of the gas phase present in equilibrium with the metal and oxide phase. The value of the oxidation potential depended on the content of Cr in the melt: the higher the content of Cr the lower the value of the oxidation potential. This indicated that the activity of Si (at the same concentration) was higher in melts having a higher concentration of Cr, because its oxidation occurred at a lower partial pressure of oxygen. The coefficient of activity of Si was determined by comparing the thermodynamic conditions of Si oxidation in Co-Cr melts with those in

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UDC: 669.255

L  
L  
ACCUMULATED 19660000 IJP(c) /V,

JN/E/JG

SOURCE CODE: UR/0020/06/169/006/1383/1386

AUTHOR: Averin, V. V.; Cherkasov, P. A.; Smirin, A. N. (Academician)

SRC: Institute of Metallurgy im. A. A. Baykov, Academy of Sciences SSSR (Institut metallurgii Akademii nauk SSSR)

TITLE: Solubility of nitrogen in liquid cobalt and cobalt-titanium and cobalt-molybdenum melts

SOURCE: AN SSSR. Doklady, v. 169, no. 6, 1966, 1383-1386

TOPIC TAGS: solubility, solution property, free energy, nitrogen, cobalt, titanium, molybdenum, alloy

ABSTRACT: Solubility of nitrogen in liquid cobalt and in cobalt-titanium--(0.25-1.3% Ti) and cobalt-molybdenum--(5-20% Mo) melts was studied by means of measuring the volume of the hot melt after dissolving nitrogen in 1500-1700°K range and at nitrogen pressure of 15-760 mm Hg. The volume of the hot melt was measured with argon and the nitrogen solubility was calculated according to the method of R. D. Pehlke and I. F. Elliott (Trans. AIME, 213, 1088 (1959)). The experimental setup is described in detail. The nitrogen solubility in molten cobalt at 1 atm pressure was found to obey the relationship  $\log [\text{CN}] = 35 + 0/T - 0.435$ . The free energy of the nitrogen dissolving in molten cobalt was found to be:  $\Delta F = 16,200 + 1.99 T$  cal/gram-atom of nitrogen. At

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UDC: 541.123.38

L 0503-57  
ACC NR: AP5030660

1600°K, the dependence of the coefficient of nitrogen activity upon titanium concentration in the cobalt-titanium melts was found to be:

$$\lg f_N^{Ti} = -0,45[\% Ti].$$

The effect of molybdenum on nitrogen activity in the Co-Mo melts at 1600°K was found to be

$$\lg f_N^{Mo} = -0,015[\% Mo].$$

A. M. Zelichenko took part in the work. Orig. art. has: 4 figures, 6 formulas.

SUB CODE: 11/ SUBM DATE: 28May66/ ORIG REF: 004/ OTH REF: 003

Card 2/2 ✓

AVERIN, V.Z.

Experimental study of the protection of flat banks from erosion by currents along the banks. Visti Inst.hidrol.i hidr. AN URSR 22:14-21  
'63.

(MIRA 16:4)

(Hydraulics)

USSR/Engineering - Heat engineering  
AVERIN, Ye. K.

FD-1385

Card 1/1 : Pub. 41-12/18

Author : Averin, Ye. K.

Title : Influence of material and machining of surface on heat emission during water boiling

Periodical : Izv. AN SSSR. Otd. tekhn. nauk 3, 116-122, March 1954

Abstract : Studies effect of properties of heating surface on heat emission in tubes made of stainless steel, copper, nickel-plated copper, and aluminum during water boiling process. Disputes experimental results obtained by American investigators, stating that effect of material and finish of heating surface on heat transfer in water boiling is considerably lower than it is generally assumed. Table, graphs, illustrations. Six references; 3 USSR.

Institutions :

Submitted : by Academician M. V. Kirpichev, February 26, 1954

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7

4 VENICE VEN.

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7"

AVARIN, K.  
(Cand. Tech. Sci.)

Water. "Heat Exchange during Boiling Under Conditions of Forced Circulation of

report presented at sci. and tech. session on Heat Exchange during Change of  
Aggregate State of Matter (By Comm. on High Steam Conditions, Power Inst. AS USSR,  
and Inst. Thermal Engineering, AS UkrSSR), Kiev, 23-28 Sep 57.

Power Inst. Acad. Sci. USSR

26(8) PLATE I BOOK EXPLOITATION

SOV/1826

**Toploperadtsa i toplofizika modelirovaniye (Heat Transfer and Modeling of Heat Processes)** Moscow, Izd-vo Akad SSSR, 1959.  
459 p., Errata slip inserted. 3,500 copies printed.

**Sup. Ed.: M. A. Kirichev, Academician; Ed. of Publishing House: D. A. Ivanov; Tech. Ed.: G. N. Shcherbenko.**

**PURPOSE:** The book is intended for scientists concerned with heat transfer, heat emission, and hydraulics of liquid metals, etc.

**COVERAGE:** This collection is dedicated to the memory of Academician N. V. Kirichev who in the twenties initiated a systematic investigation of heat transfer processes and the efficiency of heat apparatus. Later he led the development of research work in this field. This special collection, developed by members of our school have been published, as in 1950, at the All-Union Conference on Model Theory (Materials of the Conference on Modeling and its Application). The present collection presents the consequences further development of the work of this school. This theory is fundamental for the analysis of many heat problems in the field of electrical and radio engineering. Of great importance are the first systematic investigations of heat transfer and the hydrodynamics of liquid metals which are now kind of heat carrier may be used in the various branches of modern engineering. As a result of special investigations of some cases of convective heat transfer, a dependence of the process on the kind of liquid, temperature, pressure, direction of the heat flow, and other factors was discovered and established. On the basis of a wide generalization of experimental data, new dependences recommended for heat transfer of engineering equipment were developed. Or no less important is the work on heat transmission in boiling liquids and the determination of vapors. All investigations are based on the theory of stability, the nature of which, according to N. V. Kirichev, is that of experimentality. Work on the theory of a regular regime applied to a system of bodies with an internal source is of interest for the future.

**Mil'yakov, N. A. Average Heat Transfer in the Flow of Liquids and Gases**  
As a result of the analysis and generalization of experimental data of the average heat-transfer in various liquids in turbulent motion (Re 2,100-10<sup>4</sup>) in long pipes (length to diameter ratio > 50), the following equation was established:  
$$\frac{d\bar{h}}{dx} = \frac{0.023}{\text{Pr}^{0.25}} \cdot \frac{\mu}{\rho} \cdot \frac{G^2}{\text{Gr}^{0.25}} \cdot \frac{D^4}{x^2}$$
 in which the average temperature equivalent (hydraulic) diameter of the determining temperature is determined from the form of the equation:  $\text{Gr}^{0.25} = \frac{G^2 D^4}{\mu \rho x}$ .  
On a Kortiagram, the first edition was compared with new data on heat transfer published recently. The material was divided into 7 groups: 1) gases, 2) air, 3) water, 4) steam, 5) organic vapors, 6) air in channels, 7) air in conduits. The data are given in rectangular section 1) air in circular, rectangular, and square pipes; 2) air in rectangular section 2) air in conduits of various materials, rectangular or circular pipe inside 7) air and water in conduits composed of an outer conduct and 1) outer conduct and 2) pipes in tubes. Experiments were calculated by the proposed equations. There are 25 references.

**Mil'yakov, N. A. Condensation of Vapors on Radiators. V. A. Frolkin. Liquid Flow and Heat Transfer in Radiator Condensers**  
The article gives the results of a special investigation of an average heat transfer in the presence of condensation of steam on vertical surfaces for radiators. Heat transfer in the presence of condensation is determined from the following equation:  
$$\frac{d\bar{h}}{dx} = \frac{0.023}{\text{Pr}^{0.25}} \cdot \frac{\mu}{\rho} \cdot \frac{G^2}{\text{Gr}^{0.25}} \cdot \frac{D^4}{x^2}$$
 where the experiments are given. The experiments were done at the Laboratory of the Toploperadtsa i toplofizika modelirovaniye (Moscow, USSR) under the guidance of the Institute of Mathematics, Academy of Sciences, Moscow. The tests were carried out by the author of the article, assisted by Mechanic M. I. Portnoy, Senior Engineer A. A. Tolstikhin and senior engineer I. D. Skalist.

24(8) PHASE I BOOK EXPLOITATION 507/1826

Akademija nauk SSSR. Energeticheskiy Institut:

*Teploperedacha i toplovoe modelirovaniye (Heat Transfer and Modeling of Heat Processes)*. Moscow Izd-vo Akad Nauk SSSR. 1959. 189 p. External offprint. 2,500 copies printed.

*Sup. Ed.: P. A. Nitkovskiy*, Academician; *Ed. of Publishing House: D. A. Ivanov*; *Tech. Ed.: O. B. Shevchenko*.

**PURPOSE:** The book is intended for scientists concerned with heat transfer, heat conduction, and hydraulics of liquid metals, etc.

**COVERAGE:** This collection is dedicated to the memory of Academician N. V. Kirpichev who in the twenties initiated a systematic investigation of heat transfer processes and the efficiency of heat apparatus. Later he led the development of research work in this field. The scientific collection which includes Kirpichev's specific contributions to the theory of convective heat transfer has been published, one in 1938. Materially considerably later (1951), Tsvetkov published his *Modelirovaniye (Theory of Simulation and Modeling)*. The present collection prepared in 1956 represents further development of the work of this school. This theory is fundamental for the analysis of many heat problems in the field of electrical and radio engineering. Of great importance are the first systematic investigations of heat transfer and the hydraulics of liquid metals which as a new kind of heat carrier may be used in the various branches of modern engineering. As a result of special investigations of some cases of convective heat transfer, a dependence of the process on the kind of fluid, temperature, pressure, direction of the heat flux, and other factors, was discovered and established. On the basis of generalization of experimental data, new dependable recommendations for heat analysis of engineering equipment were developed. Of no less interest is the work on heat transfer during boiling liquids and the condensation of vapors. All investigations are based on the theory of stability, the nature of which, according to N. V. Kirpichev, is that of "experimentation." Work on the theory of a regular regime applied to a system of bodies with an internal source of heat is of interest for the future.

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Mishchenko, I. M. Heat Transfer in Free Motion of Various Fluids 226  
 This article is concerned with the process and mechanics of heat transfer as related to the physical properties of fluids and to the temperature, temperature properties of fluids and heat flow. A horizontal pipe of 30 cm diameter and working section of air, water, and two kinds of converter oil were chosen for investigation. There are 11 references: 7 Soviet, 1 English, and 3 German.

Arzarin, Yu. S., and G. R. Kravtsev. Heat Transfer in Boiling 239  
 It is stated that in one type of future atomic reactors, boiling water will be used for cooling heat-producing elements. The practical application of this principle is difficult and has its difficulties. In this connection tests were made in order to determine the allowable (critical) heat loads in the flow of boiling water in heat conduits. The method is described and results are given in tables. The methods are 5 references: 4 Soviet and 1 English.

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SOV/96-59-5-5/19

AUTHORS: Arsen'yev, Yu.D., Candidate of Technical Sciences and  
Averin, Ye.K., Candidate of Technical Sciences

TITLE: The Approximate Determination of the Optimum Cycle for  
Two-Circuit Atomic Power Stations (O priblizhennom  
opredelenii optimal'nogo tsikla dvukhkonturnykh atomykh  
stantsiy)

PERIODICAL: Teploenergetika, 1959, Nr 5, pp 29-33 (USSR)

ABSTRACT: This is a theoretical article on determining which intermediate temperature in two-circuit atomic power stations gives the lowest cost. Once the maximum and minimum temperatures of the overall cycle are fixed there is only one intermediate temperature that gives the highest thermal efficiency in two-circuit system. In actual power stations the practical engineering possibilities in building reactors and other economic considerations, usually over-ride the thermal efficiency. It is, therefore, quite a complicated matter to determine the best intermediate temperature and a number of simplifying assumptions are usually made. For instance, if the cost of fuel is not included the power costs least when the maximum amount is generated, which happens with

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SOV/96-59-5-5/19

The Approximate Determination of the Optimum Cycle for Two-Circuit  
Atomic Power Stations

the temperature given by Expression (1). This expression has been derived by a number of Soviet and foreign authors. There has been some dispute about the correct definition of the maximum temperature: it should, of course, be the surface temperature of the protective tubes round the fuel elements. Formulae are then derived for the cost of electric power, with allowances for the deterioration and for repair of the reactor, the biological shielding, the auxiliary equipment for the reactor and the remaining conventional equipment of the power station. The effects on costs of unit size of set, steam conditions and the like are also considered. Expression (4) is then derived for the intermediate temperature that gives the lowest cost. However, despite the simplifying assumptions that have been made, the expression can only be solved by the method of successive approximations. This happens because the component corresponding to reactor cost is itself a function of the output and the intermediate temperature.

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The Approximate Determination of the Optimum Cycle for Two-Circuit  
Atomic Power Stations

Hence, for approximate determination of the intermediate temperature, it is best to make use of the relative fuel cost and the relative reactor component, as given in Expression (5). When the appropriate substitutions are made, expression (6) is derived and gives the intermediate temperature in more convenient form when used in conjunction with expression (6a). In deriving the formulae it has been assumed that the fuel cost per kilowatt hour of thermal output of the reactor is constant, whereas when enriched uranium fuel is used it depends considerably on the thermal output. This question is considered in somewhat more detail. The decrease in fuel cost with increase in thermal output of the station is characteristic of atomic power stations. It results from the increased amount of energy that is released per unit volume of active zone in a given time. Large errors can arise if this point is not watched when Eq (6) is used. Other assumptions are also made in the derivation of Eq (6); for example, it is supposed that the minimum temperature difference in the steam generator between

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The Approximate Determination of the Optimum Cycle for Two-Circuit  
Atomic Power Stations

the heat transfer medium and the working substance is always positive. It is, therefore, of interest to examine how far Eq (6) corresponds to the operating data from actual stations that have been designed on the basis of detailed examination. Intermediate temperature and thermal efficiency calculated from Eq (6) for a number of practical conditions are plotted in Fig 2, which also includes points calculated from the data given in Table 1 for a number of Soviet and foreign power stations. In practical stations when the fuel costs are high, the intermediate temperature and the efficiency are made high. The opposite circumstance occurs when the station is intended mainly to produce plutonium. Changes in the thermal output of a reactor, the thermal efficiency, the electrical output and the increase in power cost as functions of the cycle temperature are graphed in Fig 3. It is concluded that although a number of simplifying assumptions are made in deriving Eq (6), the resulting curves in Fig 2 correspond reasonably closely to data for

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SOV'96-59-5-5/19

The Approximate Determination of the Optimum Cycle for Two-Circuit  
Atomic Power Stations

existing atomic power stations. The equation is, therefore, suitable for approximate calculations of the thermal circuit parameters. Finally examples are given to illustrate the approximate choice of the best cycle in atomic power stations and it is concluded that by use of Eq (6) it is quite simple to analyse the influence of individual components of the power cost. Such analysis is of considerable interest in examining the future development of thermal cycles in atomic power stations. There are 3 figures, 1 table and 15 references, 9 of which are Soviet, 1 French and 5 English or translations to Russian from English.

ASSOCIATION:Energeticheskiy Institut AN SSSR (The Power Institute,  
Academy of Sciences, USSR)

Card 5/5

85461

S/089/60/009/002/016/019/xx  
B006/B059**2b.1310**

AUTHORS:

Arsen'yev, Yu. D., Averin, Ye. K.

TITLE:

The Problem of Determining the Optimum Thermal Cycle in  
Nuclear Power Plants by Approximation

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 2, pp. 133 - 134

TEXT: The authors of the present "Letter to the Editor" discuss problems arising in the calculation of the best thermodynamic cycle corresponding to the lowest costs of electric energy, as well as the difficulties of an exact calculation. They particularly refer to similar work done by D. D. Kalafati (Refs. 1-4) discussing it and criticizing the results. In Ref. 1, the postulate that costs of electric energy be a minimum led to equation (1) for the mean temperature of the working substance:

$$T_{1c}^{m,opt} = \sqrt{T_p^{\max} T_{2c}^{\max}} / (1-z); \quad T_p^{\max} \text{ denotes the maximum temperature on the wall } (T_w) \text{ of the fuel element; } T_{2c}^{\max} \text{ denotes the condenser temperature } (T_{con}); \\ z = \eta_t. \text{ For inexpensive fuel, } z \text{ may be set equal to zero, and equation (1)}$$

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The Problem of Determining the Optimum Thermal Cycle in Nuclear Power Plants by Approximation

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B006/B059

then reads as follows:  $T_{ic}^{n,opt} = \sqrt{T_p^{\max} T_{con}^{\max}}$  (2). In Ref. 1, either the wall temperature ( $T_w$ ) or the temperature in the center of the fuel element ( $T_{cen}$ ) was substituted for  $T_p^{\max}$ . In the present article, it is shown that in (1) and (2)  $T_{cen}$  and  $T_p^{\max}$  cannot be equated if plane or cylindrical fuel elements are considered. Proof is given and discussed in detail. The second section of the article briefly points out that equations (1) and (2) in Refs. 1 and 2 are applied to both cycles with and without regenerative preheating of the water. This leads to the wrong conclusion that a cycle with regenerative heating has the higher efficiency. In the third section, the authors briefly discuss the use of equations (1) and (2) to calculate the cycles of boiling-water reactor power plants; and in the last section, they criticize the fact that in Refs. 1-4 the influence of changes in electric power or of the parameters of the steam conveyed to the turbine on costs was not considered. Problems of investment and operating costs are discussed, and the equations derived in

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The Problem of Determining the Optimum  
Thermal Cycle in Nuclear Power Plants by  
Approximation

S/089/60/009/002/016/019/xx  
B006/B059

Refs. 1-4 are said to be of minor importance. There are 1 figure and  
4 Soviet references.

SUBMITTED: March 24, 1960

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"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7

AVERIN, Ye.K.

Soluble glass production practices. Sbor. trud. BITM no.22:  
37-40 '64. (MIRA 18:6)

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7"

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7

AVERIN, Yu.A., inzh.; OLUŠHKOV, Ye.F., inzh.; KARYAKIN, R.N., inzh.

Investigating the power factor of a.c. electric traction systems  
used in rectifier electric locomotives. Trudy TSNII MPS no.156:33-48  
'58. (MIRA 11:8)  
(Electric locomotives) (Mercury-arc rectifiers)

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7"

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7

AVERIN, Yu.A., inzh.; KARYAKIN, R.N. inzh.; PANIN, A.P., inzh.

Results of experimental determination of the spectral composition  
of initial currents used in rectifier electric locomotives. Trudy  
TSNII MPS no.156:49-57 '58. (MIRA 11:8)

(Electric locomotives)  
(Mercury-arc rectifiers)

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7"

AVERIN, Yu.A.

Age relation between porphyrite dikes and ore veins in the Chadak  
deposit in the Uzbek S.S.R. Uzv.geol.zhur. no.1:27-37 '60.  
(MIRA 13:6)

1. Uzglavgeologiya  
(Chadak region (Uzbekistan)--Geology)

AVERIN, Yu.A.

Genesis of Chada veined skarns and carbonates. Uzb. geol. zhur.  
no. 6:32-40 '60. (MIRA 14:1)

1. Sredneasiatskiy politekhnicheskiy institut.  
(Chada region—Skarns)  
(Chada region—Rocks, Carbonate)

AVERIN, Yu.A.

Metallogenetic characteristics of gold-ore deposits in the eastern  
Kurama Range. Uzb.geol.zhur. 6 no.2:33-37 '62. (MIRA 15:4)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut geologii.  
i mineral'nogo syr'ya, Tashkent.  
(Kurama Range -Gold ores)

AVERIN, Yu.A.

Morphology of ore bodies in low-temperature gold deposits. Uch. zsh.  
SAIGIMSA no. 7:149-152 '62. (MIRA 17:2)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut geologii i mi-  
neral'nogo syr'ya, Tashkent.

AVERIN, YU. V.

Averin, Yu. V. "The stone woodcock of Eastern Kamchatka", Okhrana prirody, 1948, No. 5, p. 12-16.

SO: U-3261, 10 April 53, (Letonis 'Zhurnal 'nykh Statey, No. 11, 1949).

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7

AVERIN, Yu. V.

Zoogeographical survey of Kamchatka [with summary in English].  
Biul. MOIP. Otd. biol. 62 no. 5:29-37 S-O '57. (MIRA 10:11)  
(KAMCHATKA--BIRDS--GEOGRAPHICAL DISTRIBUTION)

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7"

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7

AVILAE, W.W., Doc. no. 501-(2) "Birds of the French ~~Indies~~ P.  
An-

gola." Len, 1927. 2 vols. with schematic drawings. (Lord Sci. Wash.  
Zoological Inst), 1928 copies. (10,000-100)

- 17 -

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7"

AVERIN, Yu.V., doktor biologicheskikh nauk

Some changes in the composition of the game fauna of Moldavia  
during past centuries. Okhr.prir.Mold. no.1:125-132 '60.

(MIRA 15:2)

(Moldavia--Game and game birds)

PRINTS, Ya.I., otv. red.; AVERIN, Yu.V., doktor biol. nauk, red.; USPENSKIY, G.A., kand. biol. nauk, red.; KARYAKINA, I.I., red.; LEDVICH, M.M., tekhn. red.

[Problems in the ecology and economic importance of terrestrial fauna] Voprosy ekologii i khoziaistvennogo znacheniia nazemnoi fauny. Kishinev, Izd-vo "Shtiintsa," 1961. 83 p.  
(MIRA 15:7)

1. Akademiya nauk Moldavskoy SSR, Institut zoologii, 2. Deystvitel'nyy chlen Akademii nauk Moldavskoy SSR (for Prints).  
(Moldavia—Zoology, Economic)

AVERIN, Yuriy Viktorovich, doktor biol. nauk; LOZAN, Mina Nikolayevich;  
ROZINSKIY, Shmil' Abramovich; KHAITONONA, A.A., red.;  
PLENTSKOVSKIY, V.L., tekhn. red.

[Harmful rodents in Moldavia and measures for their control]  
Vrednye gryzuny Moldavii i mery bor'by s nimi. Pod red. I.U.V.  
Averina. Kishinev, Izd-vo "Shtiintsa," 1962. 66 p.

(MIRA 15:10)

(Moldavia--Rodent control)

PRINTS, Ya.I., otv. red.; AVERIN, Yu.V., doktor biol. nauk, red.; USPENSKIY, G.A., kand. biol. nauk, red.; KARYAKINA, I.I., red.; POLONSKIY, S.A., tekhn. red.

[Problems of the ecology and practical value of birds and mammals in Moldavia] Voprosy ekologii i prakticheskogo znacheniia ptits i mlekopitaiushchikh Moldavii. Kishinev, Izd-vo "Shtiintsa" Akad. nauk Moldavskoi SSR, 1962. 86 p.

(MIRA 16:1)

1. Akademiya nauk Moldavskoy SSR. Institut zoologii. 2. Deystvitel'nyy chlen Akademii nauk Moldavskoy SSR (for Prints).  
(Moldavia--Birds) (Moldavia--Mammals)

SPASSKIY, A.A., otv. red.; YAROSHENKO, M.F., red.; MARITS, A.M.,  
kand. biol. nauk, red.; AVERIN, Yu.V., doktor biol. nauk,  
red.; PRINTS, Yu.I., red.; KORYAKINA, I., red.

[Papers on neurophysiology] Sbornik po neirofiziologii.  
Kishinev, Kartia Moldoveniaske, 1963. 99 p. (MIRA 17:6)

1. Akademiya nauk Moldavskoy SSR. Institut zoologii.
2. Deystvitel'nyy chlen AN Moldavskoy SSR (for Spasskiy,  
Prints). 3. Chlen-korrespondent AN Moldavskoy SSR (for  
Yaroshenko).

PRINTS, Ya.I., otv. red.; AVERIN, Yu.V., doktor biol. nauk, red.; USPENSKIY, G.A., kand. biol. nauk, red.; KORYAKINA, I.I., red.

[Injurious entomofauna of Moldavia and measures for its control] Vrednaia entomofauna Moldavii i mery bor'by s nej. Kishinev, Kartia moldoveniaske, 1963. 108 p.  
(MIRA 17:8)

1. Akademiya nauk Moldavskoy SSR. Institut zoologii.
2. Deystvitel'nyy chlen AN Moldavskoy SSR (for Prints).

SPASSKIY, A.A., doktor biol. nauk, akademik, otv. red.; YAROSHENKO,  
M.F., doktor biol. nauk, red.; AVERIN, Yu.Y., doktor biol.  
nauk, red.; KUZNETSOVA, E., red.

[Animal and plant parasites of Moldavia] Parazity zhivot-  
nykh i rastenii Moldavii. Kishinev, Kartia moldoveniasko,  
1963. 131 p. (MIRA 17:10)

1. Akademiya nauk Moldavskoy SSR. Institut zoologii.
2. Akademiya nauk Moldavskoy SSR (for Spasskiy). 3. Chlen-korrespondent AN Mold.SSR (for Yaroshenko).

SPASSKIY, A.A., otv. red.; AVERIN, Yu.V., doktor biol. nauk, r.d.;  
VERINA, V.N., red.; KRUPENIKOV, I.A., kand. geol.-miner.  
nauk, red.; ODUD, A.L., kand. geogr. nauk, red.;  
POKROVSKIY, V.S., kand. biol. nauk, red.; USPENSKIY, G.A.,  
kand. biol. nauk, red.; SHAFOSHNIKOV, L.K., kand. biol.  
nauk, red.; POSAZHENIKOVA, Ye., red.

[Transactions of the Fifth All-Union Conference on the  
Conservation of Nature] Trudy Vsesoiuznogo soveshchaniia  
po okhrane prirody. 5th. Kishinev, Kartia moldoveniaske,  
1963. 267 p. (MIRA 17:11)

1. Vsesoyuznoye soveshchaniye po okhrane prirody. 5th,  
Kishinev, 1962.
2. Predsedatel' Komissii po okhrane prirody  
AN Moldavskoy SSR (for Odud).
3. Starshiy nauchnyy sotrud-  
nik Komissii po okhrane prirody pri Gosplane SSSR ('<sup>an</sup>  
Pokrovskiy).
4. Vitse-prezident AN Moldavskoy SSR. Deystvi-  
tel'nyy chlen AN Mold.SSR (for Spasskiy).
5. Zaveduyushchiy  
laboratoriye po pochvovedeniya Instituta pochvovedeniya i agro-  
khimii im. M.A. Dimo (for Krupenkov).
6. Institut zoologii AN  
Moldavskoy SSSR (for Averin).

39164  
S/120/62/000/003/030/048  
E032/E114

26-2318

AUTHOR: Averina, A.P.

TITLE: The use of an omegatron for the measurement of partial pressures in high vacuum systems

PERIODICAL: Pribory i tekhnika eksperimenta, no.3, 1962, 123-127

TEXT: The author has investigated the PMO-4C (RMO-4S) omegatron, the design of which was similar to that described by D. Alpert and R.S. Buritz (J. Appl. Phys., 25, 1954, 202). The RMO-4S has an additional diaphragm under the cathode (0.3 mm diameter) through which the electron beam enters the working chamber of the omegatron. The apertures through which the electron beam passes in the analyzer are 1 mm in diameter. Owing to this construction the electron beam does not enter the analyzer circuit when the omegatron is properly aligned in the magnetic field. A schematic drawing of the device is shown in Fig.2 (1, 2 - cathode; 3 - cathode diaphragm; 4 - analyzer; 5 - electron collector; 6 - high frequency plate; 7 - ion collector). Special high tension supplies were employed to stabilize the electron beam to better than 0,5%. Omegatrons

Card 1/2

The use of an omegatron for the ...

3/120/62/000/003/030/048  
1732/Ell4

very similar to the RMO-4S have been described in detail by A.G. Edwards (Brit.J.Appl.Phys., 6, 1956, 44) and D.S. Stark (Vacuum, 9, 1959-1960, 288). Measurements have shown that the RMO-4S is capable of producing quantitative results at maximum sensitivity. This is in agreement with the results reported by Alpert and Buritz, who showed that the sensitivity of an omegatron should be of the same order of magnitude as that of an ionization gauge. Calibration of 50 omegatrons using pure helium showed that the average spread in the sensitivity of the RMO-4S omegatrons is less than 10%. The sensitivity to nitrogen is 10 mm Hg/cm. Partial pressures can be measured to better than 20% without special calibration. In a magnetic field of 3 kOe the omegatron was found to resolve all ion peaks up to mass number 20. There are 5 figures and 1 table.

SUBMITTED: November 29, 1961

Card 2/1

ACC NR: AP6030143

(A)

SOURCE CODE: UR/0120/66/000/004/0132/0137

AUTHORS: Averina, A. P.; Vinogradov, V. I.; Grinchenko, T. G.

ORG: none

TITLE: Electric mass filter as a gas analyzer in vacuum systems

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1966, 132-137

TOPIC TAGS: vacuum gas analyzer, laboratory instrument, mass spectrum, mass filter, gas filter/ EFM-1 mass filter

ABSTRACT: The construction and operation details of an electric mass filter EFM-1 are described. The filter is used to control gas composition in vacuum systems over a pressure range of  $10^{-3}$  to  $10^{-8}$  torr. The block-schematic of the system is shown. It consists of a power supply system, a counter, an input cascade to the electrometric amplifier to measure ion currents, an electrometric amplifier, a potentiometer, and a high frequency generator. The generator has a variable voltage output at 5 Mc. It is stabilized by means of a ferro-resonance stabilizer to reduce variations in the voltage to less than 1% for an input voltage variation of  $\pm 10\%$ . The detailed circuit diagram of the generator is given. It consists of a master oscillator, an amplifier, a power supply, a linear detector, and a measuring system. The complete filter system is tested with a zone refining and molybdenum smelting equipment. Spectrometric data

UDC: 621.384.8

Card 1/2

ACC NR: AP6030143

are obtained for the constituent gases, and it is shown that the resolving power for the equipment is 50 and that the atomic mass range is 1--50. The authors thank S. I. Gendelya for taking part in the construction and preparation of the counter, and express their gratitude to I. A. Baranov and V. F. Gruzdev for their influence on the work and their help for organizing the test equipment. Orig. art. has: 9 figures.

SUB CODE: 14, 09/ SUBM DATE: 17Feb65/ ORIG REF: 002/ OTH REF: 007

Card 2/2

AVERINA, A.P.; LEVINA, G.N.; LEPEKHINA, V.T.; RAFAL'SON, A.E.

Omegatron mass-spectrometer for analyzing residual gases  
in high-vacuum systems. Prib. i tekhn. eksp. 9 no.2:  
121-125 Mr-Ap'64.

(MIRA 17:5)

1. Spetsial'noye konstruktorskoye byuro analiticheskogo  
priborostroyeniya AN SSSR.

ACCESSION NR: AP4033128

S/0120/64/000/002/0121/0125

AUTHOR: Averina, A. P.; Levina, G. N.; Lepekhina, V. T.; Rafal'son, A. E.

TITLE: Omegatron mass spectrometer for analyzing residual gas in high-vacuum systems

SOURCE: Pribory\* i tekhnika eksperimenta, no. 2, 1964, 121-125

TOPIC TAGS: spectrometer, mass spectrometer, residual gas, high vacuum technique, high vacuum electronic device

ABSTRACT: The development of a new MKh 4301 omegatron mass spectrometer is reported which consists of the following parts: (1) an analyzer; (2) a measuring unit that includes an h-f oscillator, a cathode-ray-tube recording unit, sweep amplifiers, an ion-current amplifier, and a power-supply unit; (3) an electrometric stage of the ion amplifier; (4) a permanent magnet; (5) a permanent-magnet adjuster; and (6) a chassis with a lifting mechanism. The

Card 1/2

ACCESSION NR: AP4033128

spectrometer has the following characteristics: measurement range, 2-150 atomic mass units (amu); sensitivity, 10 per torr; resolution, 25 per mass 25; pressure range,  $10^{-5}$  -  $10^{-10}$  torr; relative error in partial-pressure measurement,  $\pm 10\%$ ; magnetic field strength, 3,300 oerst; duration of recording, 2, 5, and 10 sec for oscillographic screen, or 3 and 30 min for EPP-09 electron-potentiometer tape; frequency bands of the oscillator, 30-480 kc for manual sweep, or 30-2,800 kc for automatic sweep. Other details given. Orig. art. has: 5 figures and 3 formulas.

ASSOCIATION: SKB Analiticheskogo priborostroyeniya AN SSSR (Special Design Office for Analytical Instruments, AN SSSR)

SUBMITTED: 06May63

DATE ACQ: 11May64

ENCL: 00

SUB CODE: PH, GE

NO REF SOV: 001

OTHER: 004

Card 2/2

L 0006L-66

ACCESSION NR: AP5021322

UR/0120/65/000/004/0005/0013  
621.384.8

AUTHOR: Averina, A. P.; Linnik, L. N.; Nikitina, G.

TITLE: Mass spectrometry for the determination of partial pressures in vacuum  
systems

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 5-13

TOPIC TAGS: mass spectrometer, spectrometer, electrical filter, electric  
measuring instrument

ABSTRACT: This survey paper based on 56 articles describes the omegatron,  
farvitron, radio-frequency mass spectrometer (topatron), time-of-flight mass  
spectrometer (chronotron), electrical mass filter, and cycloidal mass spectro-  
meter. The paper presents the basic characteristics of these devices, their  
merits, and their shortcomings. Orig. art. has: 5 formulas, 12 figures, and  
1 table.

ASSOCIATION: None

SUBMITTED: 07Sep64

NO REF Sov: 009

Card 1/1

ENCL: 00

OTHER: 047

SUB CODE: CP, EE

AVERINA, A.P.

Spurious peaks in the magnetron mass-spectrum. Prib. i  
tekhn. ekspl. 10 no.5:174-177 S-0 '65.

1. Submitted August 27, 1964.

(MIRA 191)

BELYAYEVA, A.I.; AVERINA, I.A.

Determination of pyridoxine by the microbiological method.  
Lab.delo 7 no.7:22-23 Jl '61. (MIRA 14:6)

1. Kafedra propedevticheskoy terapii I Moskovskogo ordena Lenina  
meditsinskogo instituta imeni I.M.Sechenova.  
(PYRIDOXINE)

AVERINA, I.A.

Some data on the qualitative composition, the quantity and the distribution of phytoplankton off the western shores of Africa in the spring and summer of 1960. Trudy Azcherniro no. 208  
17-24 '62. (MIRA 1684)

(Atlantic Ocean--Phytoplankton)

ACCESSION NR: AP4031446

S/0016/64/000/004/0070/0073

AUTHOR: Mitol'man, P. M.; Averina, I. V.; Tomenko, Ye. K.; Verezub, L. G.; Dobzhinskaya, M. G.; Khodorova, Z. G.; Altuyeva, Ye. G.

TITLE: Roactogenic nature and immunological efficacy of a new sorbed soluble diphtheria-pertussis-tetanus vaccine

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 4, 1964, 70-73

TOPIC TAGS: diphtheria-pertussis-tetanus vaccine, sorbed soluble D.P.T. vaccine, soluble pertussis antigen, reduced D.P.T. reaction, D.P.T. immunological efficacy, body temperature change, blood serum titer

ABSTRACT: A new sorbed soluble diphtheria-pertussis-tetanus vaccine containing a soluble pertussis antigen, instead of a capsular one, has been developed to reduce reactions to D.P.T. inoculations. A group of children was investigated to find reaction intensity and immunological efficacy of the new vaccine. All children were examined by a pediatrician before immunization and temperature was taken for two days before each of three inoculations. Findings show that the  
Card 1/2

ACCESSION NR: APl4031446

new vaccine does not produce any strong reactions as found in 1 to 4.3% cases immunized with vaccines containing corpuscular pertussis antigens. Moderately severe temperature reactions were found in only 1.9 to 2.4% cases compared to 7 to 15% cases for nonsorbed vaccines. Body temperature increases ranging from 37.1 to 37.5°C were found in 32% after 1st inoculation, 26.4% after the 2nd inoculation, and 19.3% after the 3d inoculation. Weak local reactions in the form of a quickly disappearing hyperemia were found in 26 to 32.2%. Blood serum titers of pertussin agglutinins, diphtheria antitoxin, and tetanus toxoid as well as Schick reaction tests all demonstrate the high immunological efficacy of the new D.P.T. vaccine. Orig. art. has:

ASSOCIATION: Khar'kovskiy institut vaksin i syvorotok im. Mechnikova (Kharkov Institute of Vaccines and Serums)

SUBMITTED: 01Jun63

ENCL: 00

SUB CODE: LS

NR REF Sov: 000

OTHER: 000

Card 2/2

AVERINA, L.A.; BORISOV, K.N., kand.tekhn.nauk; RODINA, N.M.

Plotting mechanical characteristics of an electric motor  
according to the results of the high-speed motion-picture  
photography of its starting. Trudy MAI no.145:46-49 '62.

(Electric motors--Testing)

(MIRA 15:9)

L 20918-65 EWT(1)/EWP(2)/ENG(3)/FCS(4)/FWA(5)/FWA(6) P<sub>1,1</sub>/P<sub>2,1</sub>/P<sub>3,1</sub>

V. A. HOR. Zaytsev, S. G., Shatkov, A. P., Lazareva, Ye. V., Trukhanova, I. N., Avdeeva,  
Gavrilov, M. K.

*OTM*  
TITLE: Methods for measuring the density field of gas flow in a shock tube with the aid of an interferometer

SOURCE: AN SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika i svoystva  
gazov pri veryshchikh temperaturakh (Physical gas dynamics and properties of gases at  
high temperatures). Moscow Izd-vo Nauka 1964 104 114

TOPIC TAGS: gas dynamics, gas density measurement, shock wave, shock tube, inter-  
ferometry, nitrogen shock wave

ABSTRACT: The paper deals with techniques for interferometric studies of shock waves  
in a tube. The lengths of the high and low pressure tubes are 0.9 and 2.4 m respectively.  
The inner tube section is 12 x 12 mm, and the side-walls of the end-section are made  
of accurately (0.2 mm over the entire field) plane-parallel glass. A description of the  
electronic details for recording, synchronization, etc. is then given. A Mach-Zehnder  
interferometer is used. The white light source is modulated by a pulsed electron gun  
length, by point and line-discharges of a capacitor charge to 10 kV. The scanning  
time 1/2

4. 20810-65

ACCESSION NR: AT4048013

method allowed continuous density measurement at a fixed plan with spatial resolution of 0.1 mm and time resolution of 0.01 ms. The method was used to measure the density of the plasma in the photodetachment chamber of the spectrometer.

The report contains the following: Some basic information about the experimental setup; the method of measurement of the density of the plasma; the results of the measurements of the density and the behavior of the plasma in the photodetachment chamber; the incident and reflected shocks as a function of the Mach number of the flow; the interaction of nitrogen with an initial pressure of 10 mm Hg and a temperature of 200K. There are also some figures and 6 equations.

ASSOCIATION: Energeticheskiy Institut AN SSSR (Power Engineering Institute, AN RSR)

SUBMITTED: 06Mar64

ENCL: 00

SUB CODE: ME

NO REF Sov: 006

OTHER: 002

Card 2/2

AVERINA, L.I.

Varieties of strawberries developed abroad. Kons. i ov. prom. 1'  
no.4:37-40 Ap '58. (MIRA 11:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i  
ovoashchesushil'noy promyshlennosti.  
(Strawberries--Varieties)

AVERINA, L.I.; PONOMARENKO, S.F.

Growing high-quality strawberry planting stock. Kons. i ov. prom.  
14 no.5:31-33 My '59. (MIRA 12:6)

1.Moskovskoye otdeleniye instituta rasteniyevodstva (for Averina).  
2.Sovkhoz "Bogucharovo" Tul'skoy oblasti (for Ponomarenko).  
(Strawberries)

KRIVIN, B.O.; AVERINA, L.I.

Virus diseases of strawberries and the procedure for freeing  
seedlings of infection. Kens. i ev. prem. 14 no.8:31-35 Ag '59.  
(MIRA 12:9)

l.Moskovskoye otdeleniye Vsesoyuznogo instituta rasteniyevodstva.  
(Strawberries--Diseases and pests)

TELYATNIKOVA, G.N., kand. sel'skokhoz. nauk; AVERINA, L.I.

Growing strawberry transplants on peat-humus beds. Dokl. Akad.  
sel'khoz. 24 no.7:22-28 '59. (MIRA J^1.10)

1. Nauchno-issledovatel'skiy institut konservnoy promyshlennosti.  
Predstavlena akademikom M.A. Lissavenko.  
(Strawberries)

AVERINA, L. I.

Some biological characteristics of foreign varieties of  
strawberries. Kons.i ov.prom. 15 no.4:31-35 Ap '60.

(MIRA 13:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy  
i ovoshchesushil'noy promyshlennosti.  
(Strawberry—Varieties)

AVERINA, L.I.

Chemical and technological testing of foreign strawberry varieties.  
Kons.i ov.prom. 15 no.5:30-32 My '60. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i  
ovoshchessushil'noy promyshlennosti.  
(Strawberries -- Varieties)

AVERINA, L.I.

"An Agrobiological and Technical Study of Varieties of Strawberry  
of Foreign Breeding";

dissertation for the degree of Candidate of Agricultural Sciences  
(awarded by the Timiryazev Agricultural Academy, 1962)

(Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, Moscow, No. 2,  
1963, pp 232-236)

L 17778-63  
RM/WW/MAY

EPR/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Ps-4/Po-4/Pr-4

ACCESSION NR: AP3005854

S/0051/63/015/002/0274/0280

76  
72

AUTHOR: Averina, L.N.; Kerner, B.I.; Nikulina, R.A.; Sokolovskaya, T.I.; Tsirlin, Yu.A.

TITLE: Light collection in scintillators

SOURCE: Optika i spektroskopiya, v.15, no.2, 1963, 274-280

TOPIC TAGS: scintillator, light collection, scintillator design

ABSTRACT: Expressions are derived for the light collecting coefficient  $\tau$  of a cylindrical scintillator with polished surfaces and no packaging. The light-collecting coefficient is defined as the ratio of the radiant energy emerging through one face of the scintillator and entering the photomultiplier to the total energy produced by the scintillations in the volume of the scintillator with an absorption coefficient  $k$  and an index of refraction  $n$ . Knowledge of  $\tau$  is obviously important for designing efficient scintillators and evaluating their overall efficiency. Fresnel reflection from the glass face of the photomultiplier tube is taken into account (reflections from the top and bottom ends of the cylinder compensate each other). The results of calculations by means of the deduced formulas were compared with experiment in two ways: 1) modelling, using a plexiglas cup filled with

1/8  
Card

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7

AVERINA, M,

Effect of credit on the introduction of modern technology in heavy  
industry. Den. i kred. 13 no.11:43-46 N '55. (MIRA 9:2)  
(Credit) (Russia--Industries)

APPROVED FOR RELEASE: 06/06/2000

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CIA-RDP86-00513R000102610004-7

BYTOVA, A.; AVERINA, M.

From the practice of a leading branch. Den. i kred. 15 no.10:  
55-60 O '57. (MIRA 10:10)  
(Sverdlov--Banks and banking)

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7"

AVERINA, M.F.

26

Preparing lacquer from galath waste. G. B. Dulov  
and M. F. Averina. Russ. Pat., Jan. 31, 1947.  
Alk. waste obtained in the galath process is mixed with  
copper sulphate and treated with benzyl chloride; the excess  
benzyl chloride is dried off, and the product is washed,  
dried and dissolved in suitable solvents.

ASD SLA METALLURGICAL LITERATURE CLASSIFICATION

AVERINA, M. S.

Rapid method for determining ash in rubber. M. M. Matzenberg and M. S. Averina. *Gaschlosser & Kautschuk*, No. 7, 30 (1939). A 2 g. sample of rubber isashed in a covered crucible in the usual manner and then placed in an oven, at 500-600°, into which O<sub>2</sub> is passed at a definite rate. When the ash turns white the crucible is removed from the oven and cooled, 5-8 drops of (NH<sub>4</sub>)<sub>2</sub>O

CO<sub>2</sub> is added, the contents are heated to 200-300° for 1-2 min., to expel excess (NH<sub>4</sub>)<sub>2</sub>O<sub>2</sub> and NH<sub>3</sub>, and the crucible is cooled and weighed. By increasing the O<sub>2</sub> current to 3 l. per min., the time required for calcining may be shortened 2-3 times, but a further increase in flow was less effective. The analysis requires only 25-30 min.

B. Z. Kamach

ABE-SEA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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CIA-RDP86-00513R000102610004-7"

FRIDLYANDER, I.N.; ROMANOVA, O.A.; ARCHAKOVA, Z.N.; GUR'YEV, I.I.;  
DRONOVA, N.P.; PETROVA, A.A.; BYCHKOVA, Z.S.; Prinimali  
uchastiye: FOMIN, K.N.; LEBEDEVA, N.S.; REZNIK, P.G.;  
AVERKINA, N.; ZHELTOVSKAYA, L.S.; VOROB'YEV, Yu.A.;  
TYURIN, N.N.

Manufacture and investigation of semifinished products from  
high-strength and heat-resistant VAD23 aluminum alloys.  
Alium. splavy no.3:194-200 '64. (MIRA 17:6)

"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102610004-7

SPIRO, N.S.; AVARINA, N.S.

Chemical composition and properties of coals in the Aldano-Chul'man region of the South-Yakutsk Basin. Uch. zap. NIIGA.  
Reg. geol. no. 4:150-166 '64. (NIIGA 16:11)

APPROVED FOR RELEASE: 06/06/2000

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KUSAKIN, N.D.; VYATKIN, S.Ye.; AVERINA, M.V.

Structural modifications of carbon material in petroleum  
pyrolysis cokes. TSvet.met. 38 no.10:59-62 O '65.  
(MIRA 18:12)

USSR/Human and Animal Physiology - Blood, Blood Coagulation.

T-3

Abs Jour : Ref Zhur - Biol., No 18, 1953, 84082

Author : Averina, N.I.

Inst : Kirgisan Institute of Medicine.

Title : Problems Pertaining to Mechanisms of Blood Clot Retraction.

Orig Pub : Tr. Kirg. med. in-t, 1956, 8, 291-293.

Abstract : No abstract.

Card 1/1

AVERINA, N.I., kand.med.nauk

Toxoplasmosis in a clinic for internal diseases. Sov.med. 25 no.1:  
43-47 Ja '62. (MIRA 15:4)

1. Iz kafedry gospital'noy terapii (zav. - prof. R.Ya.Spivak)  
Luganskogo meditsinskogo instituta (dir. - dotsent F.D.Povelitsa).  
(TOXOPLASMOSIS)

AVERINA, N.I., kand.med.nauk; KRAVCHENKO, O.A.; SKOROBOGAT'KO, P.A.

Vascular tone and capillary circulation during work in hot shops.  
Vrach. delo 4:150-152 Ap '62. (MIRA 15:5)

1. Kafedra gospital'noy terapii (zav. - prof. R.Ya.Spivak) Luganskogo  
meditsinskogo instituta.  
(BLOOD—CIRCULATION) (HEAT—PHYSIOLOGICAL EFFECT)

PLATE 2: BOOK EXPERTISE  
Karmen & Andrade Ecology: Abnormal Ecology (Correlation and Protection of Steel:  
Calibration of Articles) Mexico, Mexico, 1979. 255 p. 7,000 copies printed.

卷之三

Dr. L. R. Johnson, Doctor of Chemical Sciences, Professor, and  
A.A. Zimkhardt, Doctor of Chemical Sciences, Professor, and  
S.B. Pashchenko, Doctor, Sc. of Publishing House: Tz.S. Akademy, Peča.  
M.M. S.J. Popov, Managing Ed., for Literature on Machine and Equipment  
Construction, U.S.S.R. Publishing Directorate.

卷之三

**CONTENTS:** This book is intended for scientific and technical personnel concerned with questions of the corrosion and protection of metals.

**SYNOPSIS:** The articles in this collection deal with the corrosion of steels in corrosive environments, investigation of the effect of various factors on corrosion, methods of protecting steels from gas and electrochemical corrosion. Special attention is given to new methods of protection. A number of the articles give the results of studies made under conditions similar to those existing in the Soviet Union. New data obtained by the authors are presented in the form of tables, graphs, and diagrams.

**1. Industrially important results.** (Minerco) Institute of Steel! have published their first series of reports on the results of work conducted jointly with the laboratories of the Ministry of Metallurgy entitled "Steel Alloys". (Minerco Metallographic Plant, Moscow, U.S.S.R.) and the All-Union Research Institute of Chemical Plants, Soviet Min. of Metallurgy. Results of the articles concentrate on the protection of steel from corrosion.

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Number of bibliographies 1. Bibliography of publications on (Inventor's name and date) Correction of materials. Sovmenni 350 p. 1/000 copies printed.	
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CIA-RDP86-00513R000102610004-7

SHEVCHUK, V.G.; AVERINA, R.A.

System lithium sulfate-beryllium sulfate-magnesium sulfate-water  
at 35 degrees Centigrade. Zhur. neorg. khim. 9 no.12;2764-2768  
D '64.  
(NIRA 18:2)

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APPROVED FOR RELEASE: 06/06/2000

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CHEVCHUK, V.G.; AVERINA, R.A.

System Li<sub>2</sub>SO<sub>4</sub>- (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>- MgSO<sub>4</sub>- H<sub>2</sub>O et 25°C. arur.neorg.khim.  
10 no.12:2824-2826 D '65. (MIR 1961)

1. Poltavskiy inzhenerno-stroitel'nyy institut, kafedra khimii.

USSR / Pharmacology. Toxicology. Anticoagulants.

Abs Jour : Ref. Zhur - Biologiya, No. 3, 1959, 13887

Author : Averina, R.I.

Inst :  
Title : The Prothrombin Level and Blood Coagulation in  
Therapy with Salycilates.

Orig Pub : Klinich. meditsina, 1958, 36, No. 3, 33-38

Abstract : The study of blood coagulation in cardiac pa-  
tients presents a real problem insofar as in  
rheumatic heart disease, especially in the pres-  
ence of cardiac fibrillation, thrombo-embolic  
processes are very frequent. 75 patients were  
treated with salycilates; a group of the patients  
received, aside from this, the anticoagulants  
heparin, dicoumarin and phenyl-indandione. Ther-  
apeutic doses of salycilates did not induce a

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1. Iz 2-y kafedry terapii TSentral'nogo instituta usovershenstvovaniya vrachey (zav. - prof. B.Ye.Votchal) na baze bol'nitsy imeni S.P.Botkina (glavnyy vrach Yu.G.Antonov).  
(ANTICOAGULANTS (MEDICINE) (RHEUMATIC HEART DISEASE)  
(CORONARY HEART DISEASE)

AVERINA, R.I.

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Terap.arkh. 31 no.7:16-21 J1 '59. (MIRA 12:11)

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(RHEUMATIC HEART DISEASE therapy)  
(ANTICOAGULANTS therapy)  
(SALICYLATES therapy)

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"APPROVED FOR RELEASE: 06/06/2000

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Treating cavitary pulmonary tuberculosis with tuberculin and  
antibacterials. Vrach.delo supplement '57:35 (MIRA 11:3)

1. Fakul'tetskaya terapevтическая klinika (zav.-prof. N.Ye.  
Kavetskiy) Kuybyshevskogo meditsinskogo instituta i Kuybyshevskiy  
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N.Ye.Kavetskiy) Kuybyshevskogo meditsinskogo instituta i  
Kuybyshevskogo gorodskogo protivotuberkuleznogo dispansera  
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1. Fakul'tetskaya terapeuticheskaya klinika (zav. - zasluzhennyj  
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instituta i Kuybyshevskiy gorodskoy protivotuberkul'eznyy dispanser.  
(CHOLINESTERASES) (TUBERCULOSIS) (TUBERCULIN)

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instituta i sanatoriy "Lesnoye" Kuybyshevskoy oblasti.